

## ABSTRACT OF THE DISCLOSURE

[0057] A method and system for allowing a vehicle dealer and manufacturer to match dealer orders and manufacturing plant shipments easily and equitably are disclosed. The method significantly decreases processing time, saving valuable time, money, and manpower resources. An automated linear expression calculation for determining and balancing vehicle allocation allows for equitable balancing of manufacturing plant orders and efficient optimization. The linear expression calculation may be performed in an iterative series of steps. The linear expression calculation handles a plurality of attribute features, thereby accommodating a plurality of dealer requests and vehicle options. The linear expression calculation creates a matrix representing the plurality of attribute features, and with each iteration the values within the matrix are refined and optimized, with the resulting matrix representing an optimized and balanced allocation of manufacturing plant production orders among a plurality of manufacturing plants.